Alcohol consumption and gender in the 20th century: the case of Switzerland

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Alcohol consumption and gender in the 20th century: the case of Switzerland

Summary

Given the changes of gender roles in this century it is hardly justified to assume constant proportions of alcohol consumption for males and females. The purpose of the study was to reconstruct the consumption trends of males and females in Switzerland since the beginning of the 20th century. Cirrhosis mortality and survey data were used to disaggregate by sex the per capita alcohol consumption derived from sales data. The disaggregation of the per capita alcohol consumption based on liver cirrhosis mortality suggests that the evolution of alcohol consumption in Switzerland followed a parallel course for both sexes only until the 1930s. The low consumption during World War II and the evident increase until the beginning of the '60s seem to have resulted above all from the variations in consumption of beer by men. The decrease in total alcohol consumption observed since the '70s is also most probably due only to men; there is no indication of a decreasing consumption by women. The tendency of male and female consumption patterns to become more similar should be taken into account in the prevention of alcohol misuse.

Comparisons of time series of alcohol consumption with mortality trends have a tradition going back to the first third of the 20th century[1]. The approach has found a greater diffusion only with the work of Ledermann[2]. Time series have considerable value in the field of alcohol research, not only for determining mortality trends, but also for testing the influence of accessibility, or the impact of legislation and taxation of alcohol on per capita consumption[3–6].

Time-series analysis in the alcohol field is fundamentally limited in that, in general, sales data are the only readily available source of data for assessing per capita consumption. In Switzerland as in other countries sales data are collected at the aggregate level and do not permit sex-specific analysis. Male and female consumption trends are generally assumed, therefore, to have followed a parallel course. Culturally and historically this is unlikely, for alcohol consumption has its roots deep in cultural meanings and social norms. Drinking norms, however, for both sexes have not been, and are not, the same[7,8]. In traditional societies women are largely forbidden the "negative liberties" of risking poor health by using stimulants[9]. Greater equality of rights has brought a certain assimilation of roles and recreational activities of men and women, which is evident also in the use of alcohol and tobacco.

At the beginning of the 20th century, Switzerland had the highest consumption (about 22 litres) of pure ethanol per year for the population aged over 15 years of any country except France[10].

The present study has been designed to try to disaggregate by sex the longstanding data series on per capita alcohol consumption using mortality data on liver cirrhosis since 1900. For validation more detailed data could be obtained from cross-sectional surveys of the general population carried out since 1975.

Data and methods

Per capita alcohol consumption

The Swiss Alcohol Board (SAB) issues annual statistics on per capita

consumption of alcoholic beverages in Switzerland[11]. These are based on statistics of production and sales of alcoholic beverages as well as on variations in the stocks of wine-merchants. The data series goes back to 1880 and differentiates between four types of beverage (beer, wine, cider and spirits); before 1960, five-year averages were used. For better comparison with survey data, we refer the consumption data to the population aged over 15 years[12]. As sales statistics, the SAB data contain no figures on the alcohol consumption of men or women. However, given the gender-specific consumption pattern, viz. the female preference for wine[13], beverage-specific data obtained from sales statistics may be helpful for sex-specific disaggregation of total per capita consumption.

Surveys

The most accurate individual data on the alcohol consumption of the Swiss population originate from the first Swiss Health Survey (SHS) carried out by the Swiss Federal Statistical Office in 1992/93 with a data basis of 10'786 persons[13]. The Swiss Institute for the Prevention of Alcohol and Drug Problems (SIPA) had conducted surveys in the Swiss population even earlier, in 1975, 1981 and 1987, but with smaller samples of between 1430 and 1910 interviews[7,14].

For technical reasons all four surveys were limited to the population aged 15 to 74 years. Of course, the omission of those over 75 years results in a biased estimate of total population consumption, but as this applies to all surveys it can be seen as a constant quantity. More puzzling for long-time comparisons are the different data-collection methods used: personal interviews in the SIPA surveys and written questionnaires for the SHS[15]. Moreover, the 1987 survey was not based on true random sampling, and is therefore prone to distortion[16].

All four surveys used similar questions as regards drinking patterns, different types of beverage, consumption frequency and consumption quantity. Samples and sampling designs have been described in more detail elsewhere[14,15].

For the SIPA-surveys the reported total consumption by sex has been published[7,17]. Similarly, for 1975 and 1981, but not for 1987, beverage-specific consumption data are available. However, the beverage-specific data for pure ethanol do not correspond with consumption in beverage-specific litres, nor do they add up to the total consumption. The differences are unsystematic and are not due to rounding errors.

Mortality statistics

The collection of mortality statistics and coding of causes of death is centralized at the Swiss Federal Statistical Office. Since 1926, diagnosis- and sex-specific mortality data have been published annually, until 1950 aggregated to ten-year age-groups[18] and since 1951 to five-year groups[19]. For 1901–1910 and 1911–1920, averages for ten-year age-groups are available[20].

Death from liver cirrhosis before age 30 is extremely rare; for men and women the risk to die of this disease increases considerably until age 70. As the elderly are often polymorbid, the assignment of a uni-causal diagnosis is frequently not justified. This study has been limited to deaths in the 30–79 years category, therefore. The per capita consumption data of the SAB cannot be adjusted for variations in the population structure (age, for instance). Similarly, it was decided not to age-standardize mortality from liver cirrhosis but rather to use absolute death counts.

Methods of disaggregation

Per capita consumption figures derived from sales data were disaggregated by applying the sex ratio of cirrhosis deaths in the age category 30–79 years. Because mortality data are more variable than per capita consumption data, it is advisable to average them over several years. Here, mortality data have been grouped according to the periods used for the SAB statistics[11].

Disaggregation of mean consumption derived from survey data is more complex. Except for the 1992/93 Swiss Health Survey, only secondary analysis of published data could be used. Three methods of disaggregation based on survey data, will be described, as follows:

A) Disaggregation based on mean total consumption
B) Disaggregation based on mean consumption after adjustment for beverage-specific under-coverage
C) Disaggregation based on mean consumption in different consumption categories: abstinent; < 20 g/day; 20–59 g/day; 60–79 g/day; and 80 g/day and more.

As in other countries[21], the projection of consumption quantities from survey data covers only partially the total alcohol consumption estimated from sales data. A projection to the level of per capita figures of sales statistics requires some fairly rigid assumptions. Applying the sex ratio of survey data to the sales figures (method A) is equivalent, for example, to the weighting of survey data with a constant for all survey respondents, namely the inverse of the coverage rate. This method depends on two underlying assumptions: that men and women underreported their consumption in the same way; and that underreporting increases linearly with reported consumption.

Men and women differ, however, in beverage-specific drinking patterns: beer, for instance, appears to be a men's drink[13]. Also, beverage-specific coverage rates differ considerably (see below). For these reasons, we considered not only an

adjustment for undercoverage proportional to reported overall consumption, but also a variant that uses beverage-specific coverage rates (method B).
As a third method, the percentages of drinkers in different consumption categories (abstinent, < 20 g/day, 20–59 g/day, 60–79 g/day and ≥ 80 g/day) was used (method C). Its advantage may be that percentages of drinkers in different categories can be estimated more reliably than average consumption per category, especially in those surveys with low Ns in the highest consumption category. However, method C has the disadvantage that it does not determine which value of consumption should be applied for individuals in each category. The use of category midpoints leads to significant biases, due to the skewed distribution of alcohol consumption[22]. In addition, the skewness to the left is more pronounced for female than for male consumption (for illustration see data of the 1992/93 SHS – Table 1). On the average, for the category of 20–59 g/day, men and women consumed not the theoretical midpoint of 40 g/day, but 33.5 g/day (men) and 31.1 g/day (women). The use of category-midpoints would consistently overestimate consumption, especially among women. Regrettably, means per category were not published for the earlier SIPA surveys. The means of the sex-specific categories in the Swiss Health Survey (Table 1) were therefore applied to all surveys.

Results

Male/female ratio of alcohol consumption 1975–1992/93

Given the inconsistencies in the published survey results, we decided to recalculate the mean total consumption of pure ethanol from the quantities of beverage (Table 2), resulting in a decrease of the ratio between male and female mean consumption from 3.27 (1975)

Consumption category (g pure ethanol/day)	Men		Women		Total
	l/year	(g/day)	l/year	(g/day)	l/year
Abstinent (0 g)	–	(–)	–	(–)	–
< 20 g	3.85	(8.4)	2.41	(5.2)	3.08
20–59 g	15.44	(33.5)	14.29	(31.1)	15.17
60–79 g	31.54	(68.5)	30.78	(66.9)	31.44
≥ 80 g	65.19	(141.6)	54.39	(118.2)	63.61

Basis: Swiss Health Survey (calculations by the second author).

Table 1. *Reported mean consumption (pure ethanol) by consumption category and sex, Switzerland 1992/93.*

Beverage	Men			Women		
	1975	1981	1992/93	1975	1981	1992/93
Beer	0.0193	0.0193	0.0105	0.0025	0.0027	0.0017
Wine	0.0182	0.0161	0.0103	0.0078	0.0087	0.0056
Cider	0.0017	0.0017	0.0008	0.0009	0.0008	0.0003
Spirits	0.0040	0.0028	0.0022	0.0020	0.0012	0.0009
Total (summed up)	0.0432	0.0398	0.0238	0.0132	0.0133	0.0085
Ratio men/women	*3.27*	*2.98*	*2.81*			

Basis: 1975 and 1981: recalculated from litres of beverage in Müller 1983[7] (average alcohol content in vol. %: cider 4.5 %, beer 4.8 %, wine 11 %, spirits 40 %); the obviously wrong figure for the spirits consumption by males 1981 has been corrected based on the figures for women and for the total of men and women; 1992/93: calculation from individual data (SHS) by the second author.

Table 2. *Reported daily mean consumption (litres of pure ethanol) by sex and beverage, Switzerland 1975, 1981, and 1992/93, population aged 15–74 years.*

Beverage	1975			1981			1992/93		
	survey	SAB	%	survey	SAB	%	survey	SAB	%
Beer	81.5	92.6	88%	82.3	86.9	95%	46.0	80.9	57%
Wine	42.7	56.6	75%	40.8	61.0	67%	26.3	55.7	47%
Cider	10.5	7.7	136%	9.8	6.3	155%	4.5	4.2	105%
Spirits	2.7	6.2	44%	1.8	6.6	28%	1.4	4.9	28%
Total pure ethanol	10.2	13.5	75%	9.6	13.7	70%	5.9	12.2	48%

Basis: Alcohol consumption according to SAB (Swiss Alcohol Board) referred to the population aged over 15; Table 2 (weighted for population proportions of men and women aged 15–74 years: 1975: 48.8%, respectively 51.2%, 1981: 49.0%, respectively 51.0%; 1987: 49.4%, respectively 50.6%; 1992/93: 49.5%, respectively 50.5%).

Table 3. *Coverage (%) of per capita consumption according to sales data by beverage, surveys of 1975, 1981 and 1992/93 (all quantities in litres per year and population aged over 15).*

to 2.81 (1992/93). In this calculation it was assumed that undercoverage of total sales data compared with survey data was proportional for both sexes (see section "Data and Methods", method A).

As for total volume, the assumption of proportionality can be met for each beverage. Because coverage rates for beer, the "male beverage", are higher than for wine and especially for spirits (Table 3), this estimation (method B) resulted in a higher proportion of aggregated female consumption, and therefore lower sex ratios (Table 4).

Method C – based on consumption categories – gave the male/female ratio of estimated per capita consumption as 3.38 (1975), 3.54 (1981), 3.11 (1987) and 2.81 (1992/93) (Table 5).

Projections of per capita consumption based on liver cirrhosis mortality

All survey-based estimations suggest that the male/female ratio of per capita alcohol consumption was lower in 1992/93 than in 1975. This is largely consistent with the trends of liver cirrhosis mortality (Fig. 1 and Table 6). Table 7 gives an overview of the results of the different methods of disaggregation. All four calculation methods resulted in an estimated mean consumption for men of about 21 litres per year for 1975 and 1981. The 1987 values indicate a slighter tendency of diminishing consumption (method B could not be applied for lack of beverage-specific data). For 1992/93 the values were lower by about 13–17% (about 20% for liver cirrhosis mortality) than for 1981.

Beverage	Men			Women		
	1975	1981	1992/93	1975	1981	1992/93
Beer	0.0220	0.0204	0.0185	0.0028	0.0028	0.0029
Wine	0.0241	0.0240	0.0218	0.0104	0.0130	0.0119
Cider	0.0013	0.0011	0.0008	0.0007	0.0005	0.0003
Spirits	0.0091	0.0101	0.0077	0.0046	0.0043	0.0031
Total (summed up)	0.0565	0.0556	0.0488	0.0185	0.0206	0.0182
ratio men/women	*3.05*	*2.70*	*2.68*			

Basis: Inverse weighting of Table 2 with coverage rates of Table 3 (assumption: same beverage-specific undercoverage for men and women, given the same consumption).

Table 4. *Estimated daily per capita consumption (litres pure ethanol) by beverage and sex, population aged over 15 years, Switzerland 1975, 1981 and 1992/93.*

Consumption category	Average l/year[a]	1975		1981		1987		1992/93	
		%	aggregated	%	aggregated	%	aggregated	%	aggregated
	(1)	(2)	(1)* (2)	(3)	(1)* (3)	(4)	(1)* (4)	(5)	(1)* (5)
Men									
Abstinent (0 g)	–	8.0	–	8.0	–	12.0	–	6.9	–
< 20 g/day	3.85	40.4	1.556	46.6	1.795	55.0	2.118	66.5	2.561
20–59 g/da	15.44	34.0	5.249	29.0	4.477	24.0	3.706	20.7	3.196
60–79 g/day	31.54	6.6	2.082	7.5	2.365	4.1	1.293	2.6	0.820
≥ 80 g/day	65.19	11.0	7.171	8.9	5.802	4.9	3.194	3.2	2.086
Total		100.0	16.058	100.0	14.439	100.0	10.311	100.0	8.663
Women									
Abstinent (0 g)	–	17.0	–	18.0	–	30.0	–	17.6	–
< 20 g/day	2.41	65.8	1.589	67.3	1.625	59.6	1.439	75.4	1.821
20–59 g/day	14.29	14.5	2.072	13.1	1.872	9.0	1.286	6.1	0.869
60–79 g/day	30.78	1.6	0.492	1.2	0.369	0.5	0.154	0.3	0.107
≥ 80 g/day	54.39	1.1	0.598	0.4	0.218	0.8	0.435	0.5	0.288
Total		100.0	4.752	100.0	4.084	100.0	3.314	100.0	3.085
Ratio of total men/women			3.38		3.54		3.12		2.81

[a] cf. Table 1.
Basis: Fahrenkrug and Müller[14]; Gmel and Schmid[13]; SHS 1992/93 (calculations by the second author).

Table 5. *Reported alcohol consumption in 1975, 1981, 1987 and 1992/93 by sex and frequency category, applying the category means of the SHS 1992/93.*

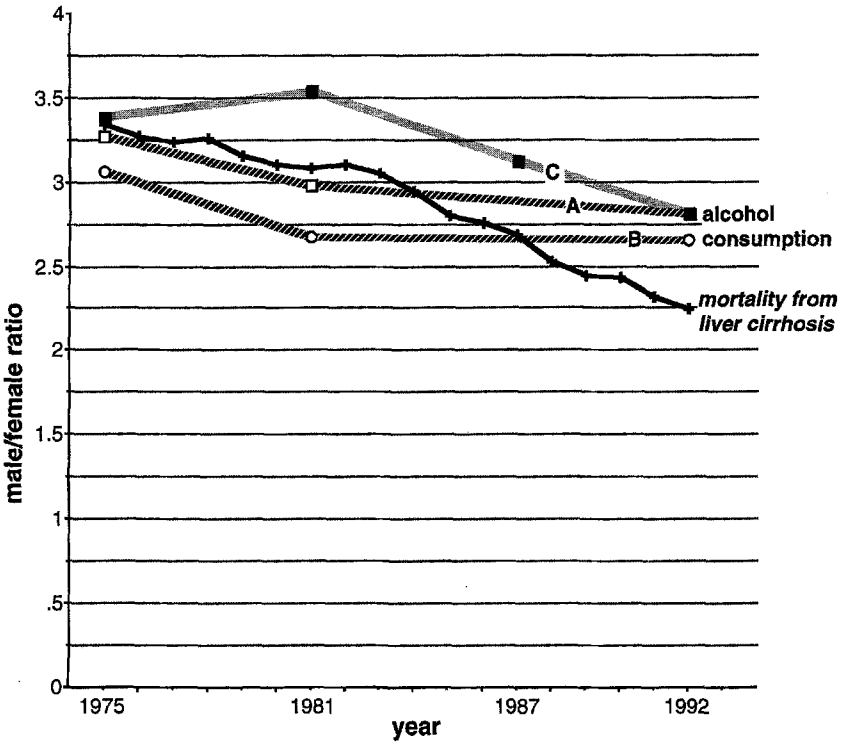
Period	Corresponding survey year	Men[a]	Women[a]	Ratio[b]
1973–1977	1975	2995	897	3.34
1979–1983	1981	2840	921	3.08
1985–1989	1987	2389	891	2.68
1990–1994	1992/93	2005	895	2.24

[a] ICD-8: code 571; deaths in the age span 30–79 years only.
[b] For reasons of comparability women and men are weighted as in Table 3.

Table 6. *Sex ratio of liver cirrhosis mortality deaths.*

Mean consumption by women seems to have been constant at 6.5–7 litres per year (with almost identical values for 1975 and 1992/93). An increase in female per capita consumption could only be hypothesized from the disaggregation based on liver cirrhosis mortality. Methods A and B suggest a consumption peak in 1981, which is at variance with the results of method C.

Given the similarity of the male/female ratios, it seemed not inappropriate to use liver cirrhosis mortality for disaggregating sales data by sex for the whole 20th century (Figure 2). Apart from a short interruption during the 1920 s, consumption fell continuously by more than half from the beginning of the century until the early '40s. After this historical lowest point, during World War II, it rose again, to a maximum of 15 litres per capita in 1973. Since the early '80s it has fallen steadily, at first slowly and since 1990 more markedly.
Beverage-specific trends have been only partially parallel. Throughout the century half of the total consumption has been of wine and a fifth to a sixth as spirits. Before



Liver cirrhosis mortality: *moving five-year average of liver cirrhosis deaths in the population aged 30–79 years, beginning 1973/77 and ending 1990/94.*

Alcohol consumption: *method A: projection of the mean daily consumption (Table 2) assuming identical coverage rates for men and women*

method B: projection of the main daily consumption, assuming identical beverage-specific coverage ratios for men and women (see Table 4)

method C: projection based on the proportions of five consumption categories (see Table 5).

Figure 1. *Male/female ratio of alcohol consumption and liver cirrhosis mortality, Switzerland 1975–1992/93.*

the 1950s alcohol consumption in form of beer only rarely exceeded that of spirits. From 1939/44 to 1961/65 total alcohol consumption (per capita population aged over 15 years) increased by 3.2 l of pure ethanol; without beer consumption, the increase would have been only 0.9 l. Since then, per capita consumption of beer has been decreasing again.

The disaggregation results suggest that it was only until the 1930s that female and male consumption developed in parallel (with a slightly steeper decrease among women). Variation in total consumption since 1935, however, would have been influenced mostly by changes in male drinking patterns, particularly concerning beer consumption. After 1970, male and female consumption levels began to converge, decreasing significantly for males but remaining constant for females.

Discussion

The main findings of this paper were that male and female alcohol consumption trends should not be assumed to be parallel and that the proportions for males and females can be estimated satisfactorily using liver cirrhosis mortality data. In Switzerland, the low consumption during World War II and the evident increase until the beginning of the '60s seem to have resulted above all from the variations in consumption of beer by men. The decrease in total alcohol consumption observed since the '70s is also most probably due only to men; there is no indication of a decreasing consumption by women. It can be strongly assumed, therefore, that the women's share of the diminishing "alcohol pie" has increased.

Given the changes over the past 25 years in the perception and interpretation of gender roles, it is understandable that female consumption patterns become increasingly similar to those of males. This is corroborated by the fact that the smallest differences between sex-specific drinking patterns occur at younger ages and in higher social classes[13], i.e. two peer groups. Similarly, in the last 25 years the risk of dying from liver cirrhosis has not decreased for women aged under 65 years, whereas for men of the same age group it has fallen by about 40%. More and more, alcohol-related mortality in females is a feature of richer, urban areas[23]. Obviously, drinking patterns may function as a symbol of cultural competence[24] and therefore of female emancipation. It is not only in Switzerland that consumption has decreased significantly only among males: analogous trends have been described in the Netherlands, Norway and Denmark[25–27].

Only few countries have information on the male/female ratio of per capita alcohol consumption, e.g. Sweden or the Netherlands[25,28].

	Method	Coverage of sales data[a]	Sex ratio[b] (men/women)	Estimated consumption	
				Men	Women
1975	mean consumption (A)	75 %	3.27	20.9	6.4
	mean consumption (B)	77 %/72 %	3.05	20.6	6.8
	consumption categories (C)	76 %	3.38	21.1	6.3
	liver cirrhosis mortality		3.34	21.1	6.3
1981	mean consumption (A)	70 %	2.98	20.7	6.9
	mean consumption (B)	72 %/65 %	2.70	20.3	7.5
	consumption categories (C)	67 %	3.54	21.6	6.1
	liver cirrhosis mortality		3.08	20.9	6.8
1987	consumption categories (C)	51 %	3.12	20.3	6.5
	liver cirrhosis mortality		2.68	19.5	7.3
1992	mean consumption (A)	48 %	2.81	18.0	6.4
	mean consumption (B)	49 %/47 %	2.68	17.8	6.6
	consumption categories (C)	48 %	2.81	18.0	6.4
	liver cirrhosis mortality		2.24	16.9	7.6

Overall per capita consumption (men and women) in litres of pure ethanol per year and population aged over 15 years: 13.5 (1975), 13.7 (1981), 13.3 (1987), 12.2 (1992/93).
(A), (B) and (C) refer to the different methods of disaggregation (cf. section "data and methods").
[a] As percentage of overall per capita consumption according to sales data; method A: for 1975, 1981 and 1992 see Table 3, for the 1987 survey calculated from total g/day[17]; method B: projection from beverage-specific coverage rates (the first percentage refers to male, the second to female consumption); method C: using the totals from Table 5 (women and men weighted as in Table 3).
[b] cf. Tables 2, 4, 5, 6.

Table 7. *Estimated per capita consumption by sex and year (1975, 1981, 1987 and 1992/93) (in litres of pure ethanol).*

The figures for these countries are lower than our estimates for Switzerland but mirror to practically the same extent the national male/female ratios of liver cirrhosis mortality[29]. The fact that the sex ratios of cirrhosis mortality usually are somewhat lower than those of alcohol consumption may be explained by a higher cirrhosis risk for women than for men, given the same consumption level[10,30].

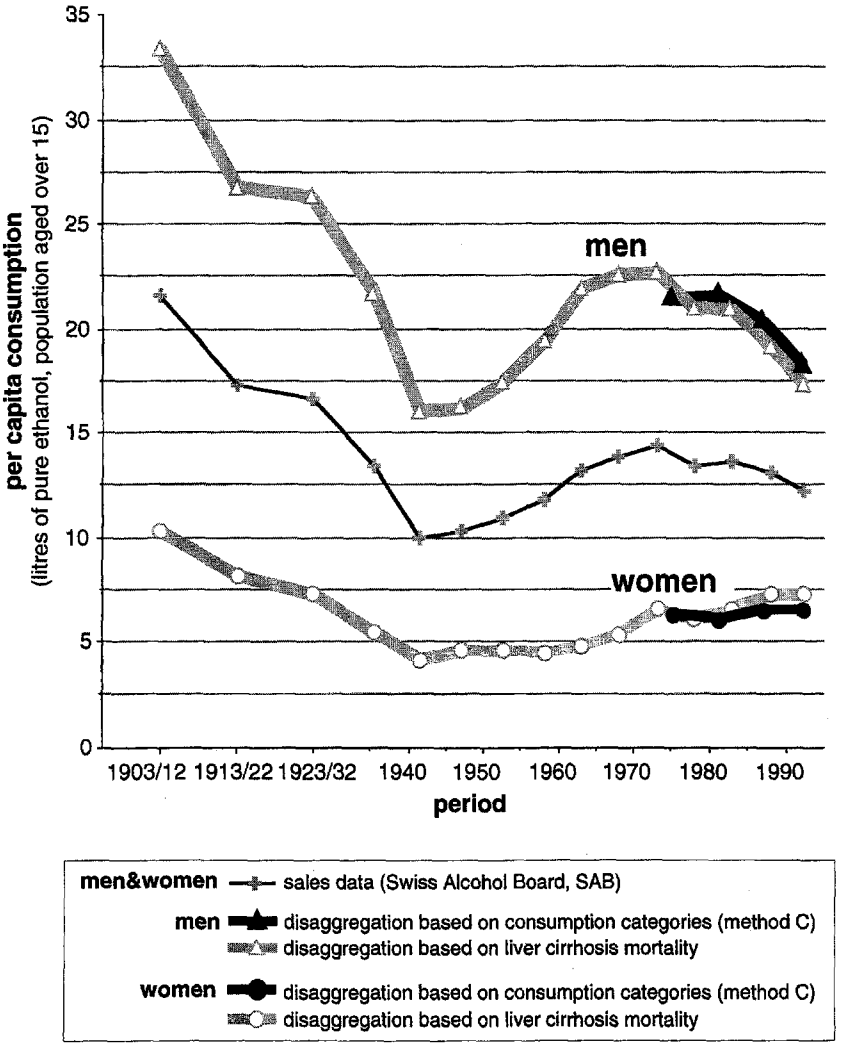
In Switzerland the sex-specific disaggregation of per capita alcohol consumption on the basis of cirrhosis mortality data is so similar to that based on data from the surveys conducted from 1975 to 1993 that it can be considered valid.

All three disaggregation methods based on survey data suggest a decrease in the sex ratio of alcohol consumption between 1975 and 1992/93. The partial trends in this time span, however, are far from being uniform. With method C the sex ratio decreased almost linearly for about 20 % since 1981, which approximately parallels the decrease in the liver cirrhosis ratio. But the 1975 ratio, being lower than the 1981 ratio, did not correspond to cirrhosis trends. A finding difficult to explain in the trends indicated by methods A and B (Fig. 1) is the clear decrease in the male/female sex ratio between the 1975 and 1981 surveys compared with its later relative stability. The sex ratio is very sensitive to variations in the coverage rates of spirits and of wine, the beverage with the highest proportion of the total consumption.

From the methodological and theoretical point of view the use of liver cirrhosis mortality data as well as of repeated surveys raises particular problems.

Why, for example, should the relatively rare deaths from liver cirrhosis, which usually occur only after long-lasting heavy consumption (it takes 15 to 20 years of heavy alcohol consumption before there is clinical evidence of liver cirrhosis), permit conclusions to be drawn about the cross-sectional average consumption of a population in which close to 9 out of 10 persons consume alcohol[13].

First, at the population level liver cirrhosis mortality proved to respond almost immediately to variations in average consumption[8,31,32]. Not only in Switzerland, the period



Basis: per capita consumption (sales data) according to the SAB, referred to the population aged over 15 years; disaggregation by sex based on the sex ratio of liver cirrhosis deaths in the population aged 30–79 years[a], as well as (since 1975) by the surveys on alcohol consumption in Switzerland (see Table 7 and text).
SAB: Swiss Alcohol Board.

[a] The creation of identical periods for the SAB data was possible only from 1933/38 onwards; the disaggregation of consumption data for 1903/12, 1913/22, and 1923/32 is based on the liver cirrhosis deaths in the periods 1901/10, 1911/20, and 1926/32 respectively.

Figure 2. *Alcohol consumption trends in Switzerland since 1903/12, by sex.*

of "alcohol penury" during World War II saw a clearly decreasing trend in mortality from liver cirrhosis. An ecological study covering several European countries modelled possible time lags from 0 to 9 years between the trends of alcohol consumption and those of mortality from cirrhosis: for Switzerland, for males as well as females, the best fit was a model with no time lag[33].

Second, ecological studies have shown again and again that the mean consumption of a population co-varies with the proportion of heaviest consumers[34–36]. In a cross-sectional ecological study the proportion of heavy drinkers correlated even then with per capita consumption when the proportion of total intake by these heavy drinkers was excluded from the calculations[37].

Our disaggregation of per capita consumption based on cirrhosis mortality data has been mainly validated with survey results being on their part of limited reliability and validity. There exists a large body of research on the problem of underreporting. A more recent view of the problem is that probably heavy drinkers who deny or hide their consumption contribute less to the underestimation than occasional drinkers, who underestimate their actual consumption when asked about a "typical drinking occasion"[21,38]. In general, the assumption of linear underreporting is not less valid than any other assumption, such as exponential increase in underreporting with increasing consumption[39,40].

The aggregated consumption from cross-sectional surveys usually covers only 40–60% of sales data and is, therefore, open to criticism. This undercoverage has been ascribed in the literature to various reasons: one is that the heaviest drinkers usually have higher non-response rates[21,41]. The evidence often does not support this assumption, however[42–44]. The indications are, therefore, that there exist more likely reasons for differences in coverage rates, and these have to do with methods of data collection (e.g. face-to-face, telephone or self-administered questionnaire[45,46]) and with the method of measurement of mean alcohol consumption[47]. Others have already called into question the quality and completeness of data and consequently also the comparability of the SIPA surveys[14,48]. The revisions undertaken in the present study can be seen as only an attempt to approximate a reality that may be hidden forever because the original records are not available. The cal-

culations are based on relatively rigid assumptions, which, moreover, were held constant over the period 1975–1993. Especially open to criticism are the assumptions of linear underreporting and of identical under-reporting for both sexes (consumption constant); underreporting may be higher for women than for men[49].

Nevertheless, given all those uncertainties, limitations and qualifications, the high concordance of the results from all applied methods of disaggregating consumption by sex is encouraging and has implications for alcohol prevention. On the average, Swiss men still drink two and a half times as much as women, but female drinking should not thereby be overlooked. Females are known to have lower tolerance for alcohol than males, which is why the limits of low-risk consumption for women have been set at a much lower level[50]. The patterns of alcohol-related mortality in women (urban/rural-gradient and relatively unfavourable trends for younger women), as well as the tendency of male and female consumption patterns to converge, pose a challenge to future prevention programmes, with the need to focus on gender roles and the prevention of female alcohol misuse.

Zusammenfassung

Alkoholkonsum in der Schweiz im 20. Jahrhundert nach Geschlecht

Da sich die Geschlechterrollen im Laufe dieses Jahrhunderts beträchtlich gewandelt haben, ist die Annahme eines konstanten Verhältnisses zwischen männlichem und weiblichem Alkoholkonsum kaum gerechtfertigt. Mit dieser Studie sollen für die Schweiz die Trends im Alkoholkonsum von Mann und Frau seit Beginn des Jahrhunderts rekonstruiert werden. Leberzirrhose-Mortalität und Surveys werden dazu herangezogen, die auf Verkaufsdaten beruhenden Angaben zum Pro-Kopf-Alkoholkonsum nach Geschlecht zu disaggregieren. Aufgrund der Trends der Zirrhosemortalität ist anzunehmen, dass die Entwicklung des Alkoholkonsums in der Schweiz nur bis in die 1930er Jahre für beide Geschlechter parallel verlief. Das Tief während des Zweiten Weltkriegs und die deutliche Konsumzunahme bis zu Beginn der 1960er Jahre scheint vor allem auf Veränderungen im Bierkonsum der Männer zurückzugehen. Der Rückgang im Alkoholkonsum seit Mitte der 1970er Jahre scheint allein durch die Männer bedingt, während bei den Frauen nichts auf eine Abnahme hindeutet. Die Tendenz zur Angleichung der Konsummuster von Mann und Frau sollte bei der Alkohol-Prävention gezielt berücksichtigt werden.

Résumé

Tendances, par sexe, de la consommation d'alcool dans la Suisse du 20e siècle

Vu l'évolution des rôles dans la société, il nous paraît difficile de continuer à affirmer que les tendances de consommation d'alcool chez les deux sexes se développent parallèlement. Cette étude tente de mettre en évidence la consommation d'alcool en Suisse depuis 1900 chez les hommes et les femmes. Les chiffres de mortalité due à la cirrhose du foie et les résultats d'enquêtes ont été utilisées pour dissocier par sexe la consommation par tête d'habitant, basée sur les chiffres de vente. L'analyse dissociée basée sur les chiffres de mortalité de cirrhose du foie, suggère que les courbes de la consommation d'alcool, en Suisse, ont évolué parallèlement jusque dans les années 30 seulement. Le constat de la baisse de consommation pendant la deuxième guerre mondiale puis la nette augmentation jusqu'au début des années soixante semble avant tout due aux variations de la consommation de bière chez les hommes. Il est également fort probable que la baisse de consommation, amorcée au milieu des années 70, soit essentiellement le fait des hommes alors qu'aucun signe de baisse ne peut être décelé chez les femmes. Il serait judicieux que la prévention tienne compte du rapprochement des modèles de consommation d'alcool entre hommes et femmes.

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